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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JUSTIN YEAGER[1]

Appeal 2018-003935
Application 13/552,464
Technology Center 3600

Before ROBERT E. NAPPI, JOHN P. PINKERTON, and JASON J. CHUNG, *Administrative Patent Judges*.

NAPPI, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant appeals under 35 U.S.C. § 134(a) from the Examiner's final rejection of claims 1, 6 through 10, 25, 31, and 32. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

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[1] According to Appellant, Atlas Planning Solutions LLC is the real party in interest. App. Br. 3.

INVENTION

The invention is directed to a technique for use in planning projects which identifies potential simultaneous operational conflicts among a plurality of assets in a project. Abstract. Claim 1 is illustrative of the invention and is reproduced below.

> 1. A method of enabling critical path method planning and scheduling software to perform resource constrained horizontal well drilling and hydraulic fracturing project planning and scheduling, the method comprising:
>
> a) storing horizontal well drilling and hydraulic fracturing operational scheduling data for a horizontal well drilling and hydraulic fracturing project, the project having one or more horizontal well drilling and hydraulic fracturing project assets, the horizontal well drilling and hydraulic fracturing project assets able to perform a plurality of horizontal well drilling and hydraulic fracturing operational activities at defined horizontal well drilling and hydraulic fracturing coordinates, in a horizontal well drilling and hydraulic fracturing scheduling database
>
> b) storing project-specific variables for the horizontal well drilling and hydraulic fracturing project in an external data source;
>
> c) executing a database query of the horizontal well drilling and hydraulic fracturing scheduling database and the external data source using a computer, returning all possible combinations of the plurality of horizontal well drilling and hydraulic fracturing operational activities, including:
>
> i) defining a common reference;
>
> ii) calculating distances from each defined horizontal well drilling and hydraulic fracturing coordinate to each other horizontal well drilling and hydraulic fracturing defined coordinate;
>
> iii) filtering the calculated distances to filter out potential horizontal well drilling and hydraulic fracturing operational activity conflicts selected from the group consisting of one or more user defined distances,

horizontal well drilling and hydraulic fracturing operational activities having no time conflicts, and distances greater than one or more user-defined buffer distances between horizontal well drilling and hydraulic fracturing assets;

d) identifying potential simultaneous horizontal well drilling and hydraulic fracturing operational activity conflicts displayed on a user interface in tabular output format, the user interface electronically connected to the computer;

e) associating the hydraulic fracturing operational activity with a latest horizontal well drilling finish date identified from step (d) for each horizontal well pad of the project, and assigning the latest horizontal well drilling finish date as "SIMOPS Constraint Date" for the hydraulic fracturing;

f) determining from among the project-specific variables and the SIMOPS Constraint Date an activity occurring latest in time, and assigning this as "Frac Constraint Date";

g) performing critical path method planning and scheduling of the horizontal well drilling and hydraulic fracturing project using the Frac Constraint Date and critical path method planning and scheduling software running on the computer, thus enabling the critical path method planning and scheduling software to perform resource constrained critical path method planning and scheduling of the horizontal well drilling and hydraulic fracturing project.

EXAMINER'S REJECTION[2]

The Examiner rejected claims 1, 6 through 10, 25, 31, and 32 under 35 U.S.C. § 101 for being directed to patent-ineligible subject matter. Final Act. 2–6.

[2] Throughout this Decision we refer to the Appeal Brief filed September 18, 2017 ("App. Br."); the Reply Brief filed February 28, 2018 ("Reply Br."); Final Office Action mailed March 9, 2017 ("Final Act."); and the Examiner's Answer mailed January 31, 2018 ("Ans.").

ANALYSIS

We have reviewed Appellant's arguments in the Briefs, the Examiner's rejections, and the Examiner's response to Appellant's arguments. Appellant's arguments have persuaded us of error in the Examiner's rejection of claims 1, 6 through 10, 25, 31, and 32 under 35 U.S.C. § 101.

PRINCIPLES OF LAW

Patent-eligible subject matter is defined in 35 U.S.C. § 101 of the Patent Act, which recites:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

There are, however, three judicially created exceptions to the broad categories of patent-eligible subject matter in 35 U.S.C. § 101: "[l]aws of nature, natural phenomena, and abstract ideas." *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208, 216 (2014); *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 70 (2012).

In determining whether a claim falls within an excluded category, we are guided by the Supreme Court's two-step framework, described in *Mayo* and *Alice*. *Alice*, 573 U.S. at 217–18 (citing *Mayo*, 566 U.S. at 75–77). In accordance with that framework, we first determine what concept the claim is "directed to." *See Alice*, 573 U.S. at 219 ("On their face, the claims before us are drawn to the concept of intermediated settlement, *i.e.*, the use of a third party to mitigate settlement risk."); *see also Bilski v. Kappos*, 561

U.S. 593, 611 (2010) ("Claims 1 and 4 in petitioners' application explain the basic concept of hedging, or protecting against risk.").

Concepts determined to be abstract ideas, and, thus, patent ineligible, include certain methods of organizing human activity, such as fundamental economic practices (*Alice*, 573 U.S. at 219–20; *Bilski*, 561 U.S. at 611); mathematical formulas (*Parker v. Flook*, 437 U.S. 584, 594–95 (1978)); and mental processes (*Gottschalk v. Benson*, 409 U.S. 63, 69 (1972)). Concepts determined to be patent eligible include physical and chemical processes, such as "molding rubber products" (*Diamond v. Diehr*, 450 U.S. 175, 191 (1981)); "tanning, dyeing, making water-proof cloth, vulcanizing India rubber, smelting ores" (*id.* at 182 n.7 (quoting *Corning v. Burden*, 56 U.S. 252, 267–68 (1853))); and manufacturing flour (*Benson*, 409 U.S. at 69 (citing *Cochrane v. Deener*, 94 U.S. 780, 785 (1876))).

In *Diehr*, the claim at issue recited a mathematical formula, but the Supreme Court held that "[a] claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula." *Diehr*, 450 U.S. at 187; *see also id.* at 191 ("We view respondents' claims as nothing more than a process for molding rubber products and not as an attempt to patent a mathematical formula."). Having said that, the Supreme Court also indicated that a claim "seeking patent protection for that formula in the abstract . . . is not accorded the protection of our patent laws, . . . and this principle cannot be circumvented by attempting to limit the use of the formula to a particular technological environment." *Id.* (citing *Benson* and *Flook*); *see, e.g.*, *id.* at 187 ("It is now commonplace that an *application* of a law of nature or mathematical formula

to a known structure or process may well be deserving of patent protection.").

If the claim is "directed to" an abstract idea, we turn to the second step of the *Alice* and *Mayo* framework, where "we must examine the elements of the claim to determine whether it contains an 'inventive concept' sufficient to 'transform' the claimed abstract idea into a patent-eligible application." *Alice*, 573 U.S. at 221 (citation omitted). "A claim that recites an abstract idea must include 'additional features' to ensure 'that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].'" *Id.* (quoting *Mayo*, 566 U.S. at 77). "[M]erely requir[ing] generic computer implementation[] fail[s] to transform that abstract idea into a patent-eligible invention." *Id.*

The United States Patent and Trademark Office "USPTO" recently published revised guidance on the application of § 101. USPTO's *2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50 (Jan. 7, 2019) ("Memorandum"). Under that guidance, we first determine whether the claim recites:

> (1) any judicial exceptions, including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of organizing human activity such as a fundamental economic practice, or mental processes); and
>
> (2) additional elements that integrate the judicial exception into a practical application (*see* MANUAL OF PATENT EXAMINING PROCEDURE ("MPEP") § 2106.05(a)–(c), (e)–(h) (9th Ed., Rev. 08.2017, Jan. 2018)).

Only if a claim (1) recites a judicial exception and (2) does not integrate that exception into a practical application, do we then look to whether the claim:

> (3) adds a specific limitation beyond the judicial exception that is not "well-understood, routine, conventional" in the field (*see* MPEP § 2106.05(d)); or
>
> (4) simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception.

See Memorandum.

ANALYSIS

The Examiner determines the claims are not patent eligible as they are directed to a judicial exception without reciting significantly more. Final Act. 2–4. Specifically, the Examiner determines the claims are directed to an abstract idea stating:

> This is simply the recited storing, executing, defining, *calculating, filtering, identifying, associating, determining, and performing data which* can be performed mentally or in a computer and is similar to the kind of 'organizing human activity' and is an idea of itself. It is similar to other concepts that have been identified as abstract by the courts, such as Collecting information, analyzing it, and displaying certain results of the collection and analysis in *Electric Power Group*. Therefore, the claims are directed to an abstract idea.

Ans. 3.

> Appellant argues the Examiner's analysis
>
> that the method "is simply the recited *storing, executing, defining, calculating, filtering, identifying, associating, determining, and performing data* which can be performed mentally or in a computer and is similar to the kind of

> 'organizing human activity' and is an idea of itself" mischaracterizes the claims and unfairly deprives them of their concrete distinctiveness.

App. Br. 14. Appellant argues that the claim is directed to determining a SIMOPS (Simultaneous Operations) constraint date for a project and, thus, allowing the computer to perform resource constrained critical path planning and scheduling for the project. App. Br. 15.

Appellant's arguments have persuaded us of error in the Examiner's rejection of independent claims 1, 25, 31, and 32 under 35 U.S.C. § 101. As discussed above, the USPTO has published recently revised guidance for the application of § 101 and under that guidance we first determine whether the claims recite a judicial exception including certain abstract ideas. Here the Examiner has found that the claims recite two groupings of abstract ideas, organizing human activity and mental processes, analogizing Appellant's claims to the claims at issue in *Electric Power Group, LLC. v. Alstom S.A.*, 830 F.3d 1350 (Fed. Cir. 2016). Ans. 3; Final Act. 3. The revised guidance identifies as abstract certain methods of organizing human activity, specifically: fundamental economic principles or practices (including hedging, insurance, mitigating risk), commercial or legal interactions (including contracts, legal obligations, advertising, marketing or sales activities or behaviors, business relations), and managing personal behavior or relationships or interactions between people. Further, the revised guidance identifies mental processes as concepts performed in the human mind (including observations, evaluations, judgments, and opinions).

Independent claim 31 recites implementing a method of critical path planning and scheduling, which involves: storing, in a database, scheduling data for horizontal well drilling and hydraulic fracturing operations having

assets to perform the operations; executing a database query to return all activities including calculated distances from each horizontal well drilling and hydraulic fracturing coordinate to each other horizontal well drilling and hydraulic fracturing coordinate; and filtering the distances to filter out conflicts; identifying the potential conflicts; associating a finish date for each of the conflicts and assigning the latest well drilling finish date as the SIMOPS constraint date; determining a frac constraint date from the SIMOPS constraint date and project specific variables; and performing critical path planning and scheduling. Independent claims 1, 25, and 32 recite similar limitations.

We disagree with the Examiner's conclusions that the claims recite organizing human activities as we do not see that the limitations discussed above in the independent claims recite fundamental economic principles or practices, commercial or legal interactions, or managing personal behaviors or relationships or interactions between people. Similarly, we do not conclude that the claimed steps are mental processes as concepts performed in the human mind (observations, evaluations, judgments and opinions). Further, while the claims broadly recite collecting and analyzing information, which our reviewing court in reviewing certain claims before it identified as essentially a mental process, we do not consider the claims to be directed to merely analyzing information in a manner that people can go through in their minds. *Electric Power*, 830 F.3d at 1353. As discussed above, the claims recite calculating distances between each well drilling and hydraulic fracturing operations; and identifying conflicts and filtering out the conflicts, which the Examiner has not shown nor do we conclude, are steps which people can go through in their mind. Thus, we disagree with the

Examiner's determination the claims recite an abstract concept.

Furthermore, even if claims were considered to recite an abstract concept, we agree with Appellant's arguments that the claims are directed to an improvement to a specific technology, and as such the claims integrate the abstract concept to a practical application and recite significantly more than the abstract concept. Appellant argues that the claims are not directed to an improvement to the functioning of the computer itself, but rather improve another technological field in that they improve the process of hydrocarbon well drilling and completion. App. Br. 22, Reply Br. 9–10. The Examiner responds to Appellant's arguments by stating the steps of critical path method planning do not amount to significantly more than the abstract idea. Ans. 5. The Examiner reasons the limitations

> do not provide the improvements to the functioning of computer itself, the steps are still performed in generic computer. Looking at the limitations as an ordered combination adds noting that is not already present when looking at the elements taken individually. There is no indication that the combination of elements improves the functioning of a computer/computer networks themselves. Their collective functions merely provide conventional computer implementation. Therefore, the claims do not recite improvements to another technology or technical field, improvements to the functioning of the computer itself.

Ans. 5. While we concur with the Examiner that the claims do not improve the operation of the computer itself, as admitted by Appellant, on page 22 of the Appeal brief, the Examiner has not addressed the Appellant's assertion that the claims are directed to improving another technology. We concur with the Appellant that the claimed method involves planning of horizontal well drilling and hydraulic fracturing and, according to Appellant's specification, improves the process by determining conflicts, simultaneous

constraint dates, and a frac constraint date (or project constraint date). Thus, the claims recite significantly more than the abstract idea and integrate the abstract idea into a practical application, as they improve the technology of planning of horizontal well drilling and hydraulic fracturing. Accordingly, we do not sustain the Examiner's rejection of independent claims 1, 25, 31, and 32 and dependent claims 6 through 10 under 35 U.S.C. § 101 for being directed to patent-ineligible subject matter.

DECISION

We reverse the Examiner's rejection of claims 1, 6 through 10, 25, 31, and 32 under 35 U.S.C. § 101.

REVERSED